

## New species of Opilioninae (Opiliones: Phalangiidae) from the mountains of Kyrgyzstan, Tadjikistan and Uzbekistan

Wojciech Staręga<sup>1</sup> & Nataly Yu. Snegovaya<sup>2</sup>

<sup>1</sup>Institute of Biology, University of Podlasie, Prusa 12, 08–110 Siedlce, Poland

E-mail: wojstar@op.pl

<sup>2</sup>Zoological Institute NAS of Azerbaijan, proezd 1128, kvartal 504, Baku, AZ1073, Azerbaijan

E-mail: snegovaya@yahoo.com

**Abstract** — Eight new harvestman species and one new genus are described from the mountains of Central Asia: *Egaenus bajsun* (Uzbekistan), *Homolophus gricenoi* (Tadjikistan), *H. chevrizovi* (Tadjikistan), *H. andreevae* (Tadjikistan, Kyrgyzstan), *H. silhavyi* (Kyrgyzstan), *H. chemerisi* (Tadjikistan), *Pamiropilio* (gen. n.) *tsurusakii* (Tadjikistan) and *P. naukat* (Kyrgyzstan). To the newly described genus also *Euphalangium suzukii* Šilhavý is included (comb. n.). *Pamiropilio* belongs to the recently separated tribe Opilionini.

**Key words** — Opiliones, Opilioninae, Kyrgyzstan, Tadjikistan, Uzbekistan, new genus, new species, new combination.

### Introduction

The rich material of harvestmen collected in former Soviet Central Asia (now Uzbekistan, Tadjikistan and Kyrgyzstan) and stored for some time in the Museum and Institute of Zoology, Polish Academy of Sciences in Warsaw but being property of the Institute of Zoology, Russian Academy of Sciences in Sankt-Petersburg has been found and worked out. It is a major part of the material used (and named) by Staręga (1978) in his “Katalog der Weberknechte (Opiliones) der Sowjet-Union”. Only one species of this lot (*Mediostoma pamiricum*) has been described until now (Staręga 1987). The other species are described herein. Some other materials probably dried out due to bad conservation and were thrown away. All the names used then by Staręga (1978) as new were nomina nuda — but after the International Code of Zoological Nomenclature they do not preoccupy the same names used in the present paper.

In the present material, new species are represented from the following genera: *Egaenus* C. L. Koch 1839 (1), *Homolophus* Banks 1893 (5) and *Pamiropilio* gen. n. (2). All of these genera belong to the recently separated tribe Opilionini (Snegovaya & Staręga 2008).

### Description

*Egaenus bajsun* sp. n.  
(Figs. 1–6)

*Male* (holotype). Body length 5.1 mm, width 2.8 mm. Whole body surface covered with small denticles and granulations (Fig. 1). Front edge of carapace covered with

small black denticles. Eye mound practically smooth. Venter smooth.

Chelicera not enlarged (Fig. 2). Basal segment dorsally with some black-tipped denticles and bristles, distal segment with bristles only. Basal segment of chelicera 1.72 mm, distal 1.95 mm. Pedipalp short and robust (Fig. 3). Femur ventrally and dorsally with large black-tipped denticles, the dorsal ones smaller, laterally with bristles. Patella dorsally and laterally with black-tipped denticles. Tibia ventrally and laterally with same denticles. Tarsus with bristles and ventrally with stripe of granules. Length of palpal segments: femur 1.17, patella 0.67, tibia 0.89, tarsus 1.33; total length 4.06 mm.

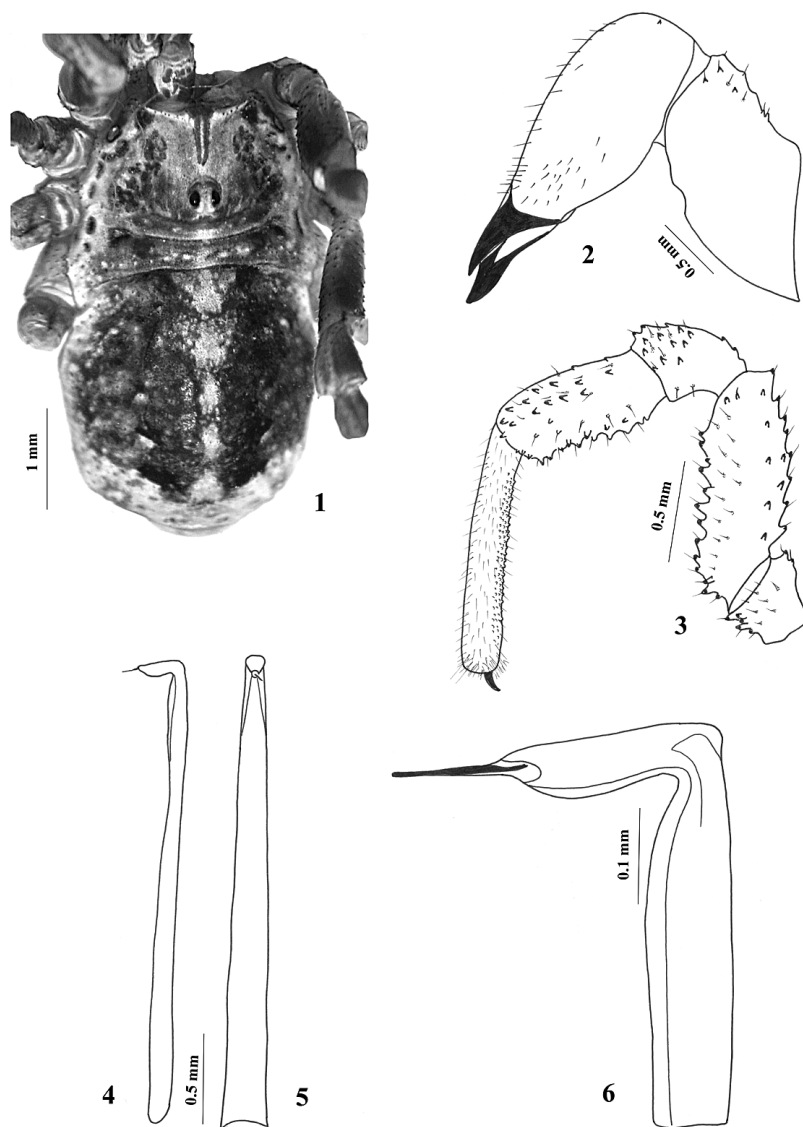
Legs short, I pair thickened; all segments covered with longitudinal rows of small and black denticles. Length of legs (in mm): I  $1.9 + 0.9 + 1.8 + 1.6 + 3.5 = 9.7$ , II  $3.2 + 1.1 + 2.6 + 2.4 + 6.4 = 15.7$ , III.  $1.9 + 0.9 + 1.5 + 2.4 + 3.2 = 9.9$ , IV  $2.8 + 1.2 + 2.5 + 3.1 + 4.8 = 14.4$ .

Penis shaft slightly flattened, very slowly broadening towards base, with subapical lateral shallow grooves (Figs. 4–6). Glans about cucumber-shaped. Length of penis 2.84, glans 0.25, stylus 0.14 mm.

*Coloration*. Body brown, sides lighter; a yellowish medial stripe, broken in several places. Venter light, nearly yellow, coxae brown. Chelicerae brown, pedipalps light brown, legs brown, all appendages variegated. Penis yellow.

*Female* (paratype). Body 6.2 mm, width 3.5 mm. It differs from male by broader body, lighter coloration, more thickened I pair of legs, thinner and nearly not armed pedipalps.

Basal segment of chelicera 1.35 mm, distal 1.35. Length of palpal segments: femur 0.87, patella 0.48, tibia 0.65,



**Figs. 1–6.** *Egaenus bajsun* sp. n., male, holotype. Body, dorsal view (1). Right chelicera, prolateral view (2). Right pedipalpus, prolateral view (3). Lateral (4) and dorsal (5) views of penis. Glans, lateral view (6).

tarsus 1.04; total length 3.04 mm.

Length of legs: I  $1.5 + 0.9 + 1.3 + 1.3 + 2.7 = 7.7$ , II  $2.7 + 0.9 + 2.1 + 2.0 + 5.0 = 12.7$ , III  $1.6 + 0.8 + 1.4 + 2.0 + 3.1 = 8.9$ , IV  $2.8 + 1.0 + 1.9 + 3.1 + 4.4 = 13.2$ .

**Material.** 1♂ (holotype), 2♀ (paratypes): SE Uzbekistan, Baysuntau [Mts.], Baysun, Almir-Temir gorge, 4. July 1966 (ZIN).

**Etymology.** The species is named after its type locality. The name was used already in Staręga (1978) but it was a nomen nudum.

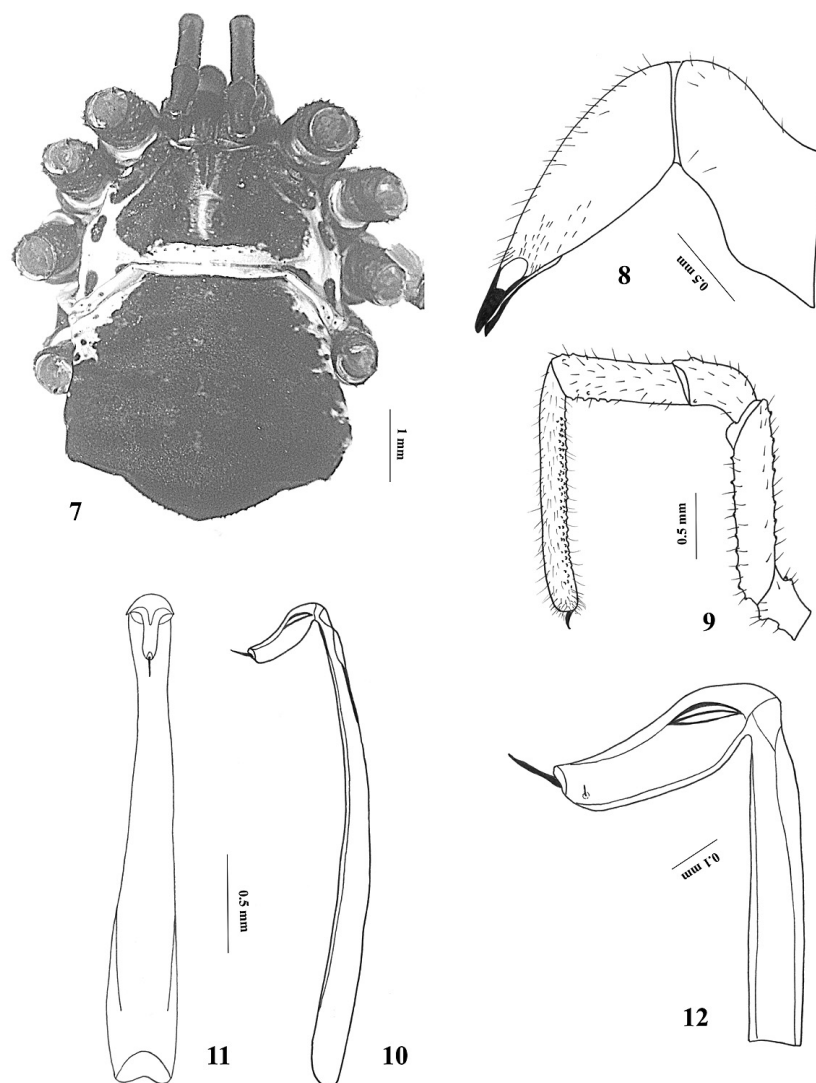
**Affinities.** The species is most closely related with *Egaenus oedipus* (Thorell 1876), but differs in following aspects: in *bajsun* supracheliceral laminae with small tubercles, in *oedipus* with big tubercles; in *bajsun* pedipalp more robust and stronger armed, in *oedipus* thinner and weaker; shaft of penis in *bajsun* only in apical part narrowed, in

*oedipus* broadening in mid-length; glans in *bajsun* nearly cucumber-shaped, in *oedipus* in profile more triangular (Staręga 2003: figs. 14–18).

**Remark.** The species is most probably known also from Turkmenistan [Akhal-teke near Ashkhabad — foot of Kopet-Dag Mts., 1896 leg. Anger — 2♂, 3♀; 1976 det. W. Staręga. ZIN].

#### ***Homolophus gricenoi* sp. n.** (Figs. 7–12)

**Male** (holotype). Body 4.8 mm long, 3.2 mm wide, quadrangular, with transverse rows of small denticles (Fig. 7). In front of eye mound a group of small denticles (about 14–15). Several denticles on sides of carapace and near odoriferous glands. Eye mound with two rows of 7–8 small



**Figs. 7–12.** *Homolophus gricenoi* sp. n., male, holotype. Body, dorsal view (7). Right chelicera, prolateral view (8). Right pedipalpus, prolateral view (9). Lateral (10) and dorsal (11) views of penis. Glans, lateral view (12).

denticles, one its diameter apart from the anterior margin of carapace. Venter, genital operculum and coxae with bristles.

Chelicera small, basal segment with some denticles and bristles dorsally, distal segment with bristles (Fig. 8). Basal segment 1.45 mm, distal 1.72 mm long. Pedipalps not enlarged. Femur dorsally and ventrally with small denticles and bristles, patella with bristles, tibia dorsally and ventrally with denticles and bristles, tarsus with bristles and ventrally with granules (Fig. 9). Length of palpal segments: femur 1.45, patella 0.61, tibia 1.0, tarsus 1.78; total length 4.84 mm.

Legs very long and slender, with longitudinal rows of small denticles. Length of legs: I  $5.8 + 1.3 + 5.0 + 6.6 + 9.3 = 28.0$ , II  $18.0 + 2.1 + 14.0 + 14.0 + 17.5 = 65.6$ , III  $6.5 + 1.5 + 5.7 + 6.0 + 13.1 = 32.8$ , IV  $8.1 + 1.6 + 6.9 + 8.5 + 19.4 = 44.5$  mm.

Shaft of penis broadest at basis (0.34 mm wide and 0.17

thick) and narrowing gradually toward the apex which is again a little wider. Glans nearly rectangular, with lateral constrictions forming basally some kind of semicircular visors. Length of penis 2.39, glans 0.41, stylus 0.11 mm (Figs. 10–12).

Body black with broad white belt on free tergites and sides of carapace. Middle band of eye mound also white. Coxae brown, genital operculum and venter white with small brown spots.

**Material.** 1♂ (holotype), 1♂ (paratype): NW Tadjikistan, Khodjent distr., Fanskiye Gory [Mts.], 2000–3000 m a.s.l., end of July 1973 leg. E. Blagoveshchenskaya (ZIN).

**Etymology.** The species has been named in honour of N. I. Gricenko, a very well promising Russian student of the Siberian and Central-Asiatic harvestmen fauna, who mysteriously and abruptly ended his career. The name was used already in Staręga (1978, sub *Euphalangium*) but it was a nomen nudum.

**Affinities.** The species is most closely related with *Homolophus potanini* (Simon 1895), but differs in following characters: body colour in *gricenkoi* black with white belt across the body on free tergites, in *potanini* — light brown with spots; shaft of penis in *gricenkoi* slightly broadened at apex, glans dorsally forming small wings (“visor”), in *potanini* apical part of shaft not broadened, glans nearly oval (Šilhavý 1967: figs. 14–20; Tchemeris et al. 1998: figs. 32–42). The structure of glans is also similar as in *H. silhavyi* sp. n. Some similarity in coloration exist also with *H. nordenskiöldi* (L. Koch 1879).

***Homolophus chevrizovi* sp. n.**  
(Figs. 13–18)

**Male (holotype).** Body length 3.6 mm, width 2.0 mm. Body almost quadrangular, covered with transverse rows of small denticles (Fig. 13). Anterior part of carapace, in front of eye mound with a few denticles. Eye mound about its

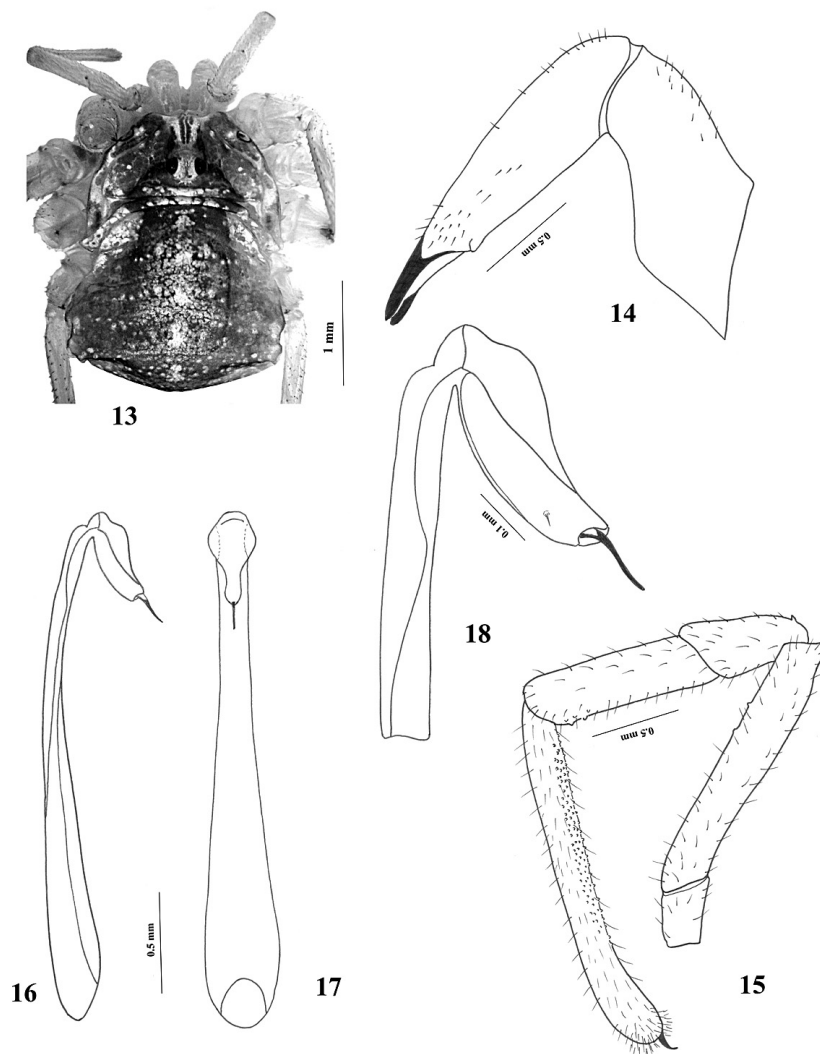
length apart from the frontal margin, with small bristles.

Both cheliceral segments with bristles, no denticles (Fig. 14). Basal segment of chelicera 1.37 mm, distal 1.73. Femur of pedipalp ventrally with small denticles, other segments with bristles; tarsus ventrally with longitudinal field of granules (Fig. 15). Length of palpal segments: femur 1.60, patella 0.67, tibia 1.07, tarsus 2.03; total length 5.37 mm.

Legs very long and slender, with small denticles and bristles. Length of legs: I  $7.9 + 1.6 + 6.7 + 8.2 + 16.3 = 40.7$ , II  $14.5 + 1.9 + 13.8 + 13.8 + 30.0 = 74.0$ , III  $7.4 + 1.5 + 7.2 + 8.1 + 15.4 = 39.6$ , IV  $10.8 + 1.5 + 8.2 + 13.5 + 22.6 = 56.6$ .

Shaft of penis with broader, rounded basis, gradually narrowing towards the apex and forming subapical “waves” on lateral edges. Glans about “boat-shaped”, with broadened and flattened basal part. Length of penis 2.43, glans 0.40, stylus 0.13 mm (Figs. 16–18).

Body with brown hourglass-shaped saddle. The hind corners of carapace and front corner of abdomen light whit-



**Figs. 13–18.** *Homolophus chevrizovi* sp. n., male, holotype. Body, dorsal view (13). Right chelicera, prolateral view (14). Right pedipalpus, prolateral view (15). Lateral (16) and dorsal (17) views of penis. Glans, lateral view (18).



ish-yellow with brown spots. Every tergite with a round light spot in the middle. Eye mound whitish-yellow. All appendages yellow, legs variegated with brown.

*Female* (paratype). Very similar to male but body bigger and oval. Body length 6.5 mm, width 3.6 mm.

Basal segment of chelicera 1.72 mm, distal 2.06. Length of palpal segments: femur 1.39, patella 0.67, tibia 1.11, tarsus 2.22; total length 5.39 mm. Length of legs: I 6.7+1.9+6.1+7.2+11.8=33.7, II 12.3+2.0+10.4+9.2+26.1=60.0, III 7.1+1.7+6.1+8.5+13.5=36.9, IV 9.3+1.8+7.5+10.8+18.6=48.0

*Material*. 1♂ (holotype), 1♂, 2♀ (paratypes): W Tadjikistan, Khodjent distr., Hisarskiye Gory [Mts.], Khodja Obi Garm, indoor, 4. October 1966 leg. E. Andreeva (1♂ holotype, 1♀ paratype — ZIN, 1♂, 1♀ paratypes — ZIB). 1♂ (Paratype): Tadjikistan, Khodja Obi Garm, near the glacier, September 1966 leg. E. Andreeva (RCWS II/0095). 1♂: Tadjikistan, Hisarskiye Gory, Kandara, valley of Warzob river, 1000 m, 20. October 1977 leg. A. Wiktor (RCWS II/0094). 1♀: Tadjikistan, Hisarskiye Gory, Kandara, 3. May 1965 leg. Martinova (RCWS II/0096).

*Etymology*. The species is named in honour of Boris P. Chevrizov (1951–1993) a well promising Russian harvestmen specialist, who died too early.

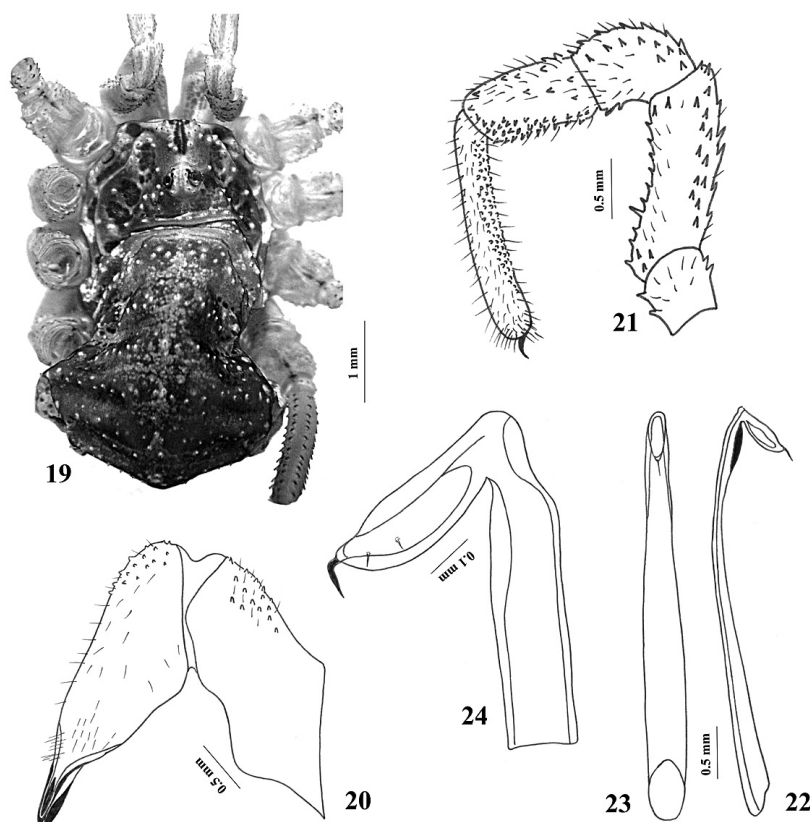
*Affinities*. The species is similar to *Homolophus potanini* (Simon 1895) and *H. gricenoi* sp. n. in construction of

penis: glans in *chevrizovi* dorsally flattend, in *gricenoi* similar but more complicated, in *potanini* — slightly rounded; shaft in *chevrizovi* gradually narrowing towards apex, in *gricenoi* similar but apex broadened, in *potanini* sharply narrowed in about mid-length. Also pedipalps in *chevrizovi* nearly without denticles, only with bristles, in *potanini* and *gricenoi* femur and tibia with numerous denticles (Šilhavý 1967: figs. 14–20; Tchemeris et al. 1998: figs. 32–42).

***Homolophus andreevae* sp. n.  
(Figs. 19–24)**

*Male* (holotype). Body flattened, 5.7 mm long (last segments shrunken), 3.1 mm wide (Fig. 19). In front of the eye mound a group of 5+5 small denticles divided by longitudinal smooth area. Frontal margin and the carapace with only few scattered similar denticles. Eye mound distant from the frontal margin of about its length, a little broader than long, flattened and with shallow furrow, with 2–3 granules on each eye ring. Both free thoracic tergites with single transversal rows of small granules (very far from each other). Abdominal tergites smooth. Venter smooth, only with bristles.

Chelicerae (Fig. 20) swollen a little, with few pointed granules dorsally on the basal and frontally on the distal



**Figs. 19–24.** *Homolophus andreevae* sp. n., male, holotype. Body, dorsal view (19). Right chelicera, prolateral view (20). Right pedipalpus, prolateral view (21). Lateral (22) and dorsal (23) views of penis. Glans, lateral view (24).

segment. Basal segment of chelicera 2.08 mm, distal 2.31 mm.

Pedipalps (Fig. 21) short and strong, femur dorsally and ventrally with denticles, patella and tibia dorsally, laterally and ventrally with numerous pointed granules. Tarsus ventrally with a large longitudinal stripe of sensory granules which encompasses about 2/3 of its length. Length of palpal segments: femur 1.54, patella 0.77, tibia 0.92, tarsus 1.69; total length 4.92 mm.

Legs of middle length (BLI=Beinlängenindex=proportion of femur I length to the width of carapace: 1.4). All segments cylindrical, femora, patellae and tibiae with longitudinal rows of pointed granules or (on tibia II) bristles. Metatarsi and tarsi with short hairs and with pairs of bristles; metatarsus II with 1–2 “false articulations”. Legs I slightly thickened; tibia ventrally with two longitudinal rows of pointed granules (on the edges) divided by a broad smooth stripe; metatarsus I ventrally with two longitudinal rows of pointed granules. Length of legs: I  $3.4+1.1+3.5+3.8+7.9=19.7$ , II  $6.1+1.7+5.4+4.8+16.9=34.9$ , III  $3.8+1.5+3.5+4.6+8.6=22.0$ , IV  $5.4+1.7+4.6+6.7+11.9=30.3$ .

Basic coloration of the body and appendages brownish-yellow. Carapace with brown shades, both free thoracic and all abdominal tergites deep brown with faint yellowish variegation, with a longitudinal medial stripe of yellowish dots and with yellow sides. Chelicerae and pedipalps with brown patches and shades, similar are distal ends of femora, whole patellae and tibiae of all legs.

Penis (Figs. 22–24). Shaft 4.5 mm long, flattened dorso-ventrally (maximal width 0.38 mm, maximal thickness 0.22 mm) and with strongly sclerotized lateral margins. Glans (Fig. 24) 0.47 mm long, cylindrical but ventrally quite flat and here with nearly parallel, sclerotized lateral margins. Stylus relatively short (0.11 mm). [Attention: this description has been made on relatively fresh material].

*Female.* Body 9.5 mm long, width 4.7 mm. Female differs from male in larger body size and more rounded form of the body.

Basal segment of chelicera 1.54 mm, distal 2.38 mm. Length of palpal segments: femur 1.54, patella 0.85, tibia 1.15, tarsus 2.31; total length 5.85 mm. Length of legs: I  $4.2+1.2+3.5+4.6+8.1=21.6$ , II  $7.9+1.7+6.3+6.1+21.1=43.1$ , III  $4.6+1.9+3.8+5.8+9.6=25.7$ , IV  $6.9+1.8+5.4+8.5+13.5=36.1$ .

*Material.* 1♂ (holotype): Tadzhikistan, Turkestan'skiy Ridge, Botanical preserve Kusavlisay, 2600–2800 m a.s.l., 28. June 1970 leg. E. Andreeva (ZIN). 1♂ (Paratype): Tadzhikistan, East Pamir, Chechekty, 4670 m a.s.l., 27. July 1970 leg. E. Andreeva (RCWS II/0097). 1♀: Kyrgyzstan, North slope of Alayskiy Ridge, Kyrgyz-Ata valley, 40 km from Naukat, 2700 m a.s.l., 22. June 1970 leg. E. Andreeva (ZIN).

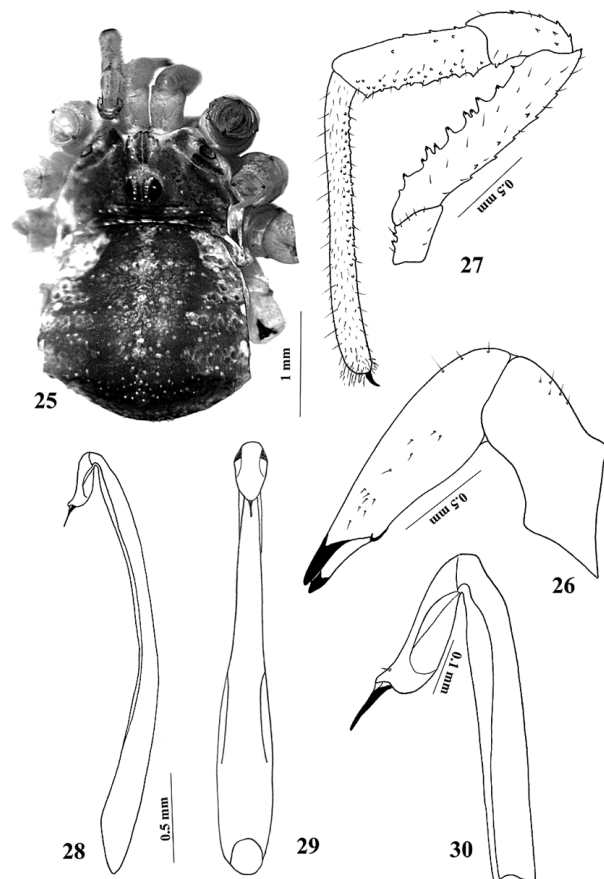
*Etymology.* The species has been named in honour of Dr. Ekaterina (Katarzyna) Andreeva-Prószyńska (earlier Dushanbe, later Milanówek in Poland; died in September

2008), whose courtesy we get access to the present material. The name was used already in Staręga (1978, sub *Euphalangium*) but it was a nomen nudum.

*Affinities.* The species is most closely related with *Homolophus vladimirae* (Šilhavý 1967), but differs in following characters: in *andreevae* body and space before eye mound with more numerous denticles, in *vladimirae* weaker armed; in *andreevae* shaft of the penis narrower and longer, with small wing in apical part of shaft, in *vladimirae* long and thin wings on 1/4 apical part of shaft (Šilhavý 1967: figs. 1–7).

***Homolophus silhavyi* sp. n.**  
(Figs. 25–30)

*Male* (holotype). Body length 3.3 mm, width 2.2 mm. Body nearly quadrangular (Fig. 25). In front of eye mound a group of 10 denticles. Similar denticles on eye mound. Eye mound normal, about its diameter from the anterior margin of carapace apart. Anterior tergites with a single row of denticles, back tergites densely strewn with denticles. Coxae smooth, venter and genital operculum with small bristles.



**Figs. 25–30.** *Homolophus silhavyi* sp. n., male, holotype. Body, dorsal view (25). Right chelicera, prolateral view (26). Right pedipalpus, prolateral view (27). Lateral (28) and dorsal (29) views of penis. Glans, lateral view (30).

Chelicerae small, both segments dorsally (or frontally) with bristles (Fig. 26). Basal segment of chelicera 1.33 mm, distal 1.61 mm long. Femur of pedipalps ventrally with large denticles, dorsally with small denticles and bristles, laterally with bristles, patella with small denticles and bristles, tibia ventrally with a group of denticles, granules and bristles, dorsally with a few denticles, tarsus with bristles and ventrally with a stripe of granules (Fig. 27). Length of palpal segments: femur 1.39, patella 0.44, tibia 1.50, tarsus 1.72; total length 5.05 mm.

Legs long, with rows of small denticles. Length of legs: I?  $10.9 + 1.5 + 10.0 + 5.5 + 19.4 = 47.3$ , III  $6.3 + 1.4 + 5.0 + 5.8 + 10.9 = 29.4$ , IV  $7.7 + 1.5 + 6.5 + 7.1 + ?$ .

Penis (Figs. 28–30). Shaft broadest in about 1/4 from the basis, narrowing gradually in both directions. Glans in profile about boat-shaped, with deep lateral incisions with some kind of a “roof” or “visor”. Ventrally forming nearly regular oval. Two bristles. Length of shaft 2.34, glans 0.30, stylus 0.09 mm.

Coloration of the body yellow and dark brown — sides yellow, saddle and cephalothorax dark brown. Venter yellow. Chelicerae and pedipalps yellow, legs darker, variegated. Penis light brown.

*Female* unknown.

*Material*. 1♂ (holotype): Kyrgyzstan, North slope of Alayskiy Ridge, Naukat scientific station, under bark of archa (*Juniperus* sp.), 6. October 1970 leg. E. Andreeva (ZIN).

*Etymology*. The species is named in honour of Dr. Vladimír Šilhavý (1913–1984), a humble Czech village general practitioner, who became one of the best harvestmen experts and worked also with the fauna of Central Asia.

*Affinities*. The species is most closely related to *Homolophus potanini* (Simon 1895), but differs in following characters: palpal femur in *silhavyi* ventrally with larger and more numerous denticles, tibia ventrally with granules; in *silhavyi* shaft of penis slowly narrowing to apex, in *potanini* — sharply narrowing from mid-length (Šilhavý 1967: figs. 14–20; Tcherneris et al. 1998: figs. 32–42). The structure of the glans is also similar as in *H. gricenkoi* sp. n.

### ***Homolophus chemerisi* sp. n.** (Figs. 31–36)

*Male* (holotype). Body length 5.5 mm, width 3.2 mm. All body surface covered with middle-sized black-tipped denticles (Fig. 31). In front of the eye mound a group of about 15 similar denticles. Such denticles on side of carapace. Eye mound not large, about 1.5 its diameter from the anterior margin of the carapace, with 6–7 smaller denticles on each eye ring. Venter and coxae with small bristles.

Chelicera. Basal segment dorsally with some denticles and with bristles. Distal segment with bristles and dorso-subapically with some denticles (Fig. 32). Basal segment 2.13 mm, distal 2.0 mm. Pedipalps short, robust (Fig. 33). Femur ventrally densely covered with large and middle-

sized black-tipped denticles; dorsally with middle-sized denticles and bristles, laterally with bristles; patella with black-tipped denticles and bristles; tibia ventrally densely covered with small black-tipped denticles; other sides with denticles and bristles; tarsus with bristles and ventrally with a strip of granules. Length of palpal segments: femur 1.53, patella 0.73, tibia 2.0, tarsus 1.83; total length 6.09 mm.

Legs rather short, I and III pair thickened. I and III femur spindle-shaped, II and IV — cylindrical; with rows of small dark denticles. Metatarsi with characteristic black structures looking like blunt angular denticles and in higher magnification appearing as thickly packed “brushes” of short bristles (Fig. 34). Length of legs: I  $3.5 + 1.2 + 2.8 + 3.2 + 5.4 = 16.1$ , II  $5.8 + 1.7 + 4.8 + 4.5 + 12.3 = 29.1$ , III  $3.5 + 1.4 + 2.8 + 4.1 + 5.7 = 17.5$ , IV  $4.8 + 1.5 + 3.8 + 5.5 + 8.1 = 23.7$ .

Penis as in Figs. 35–37. Shaft narrowing gradually towards apex. Apical part with semicircular lateral “winglets” directed dorsally. Glans in profile about boat-shaped, with deep lateral incisions and two bristles, ventrally oval, flattened. Length of shaft 3.15, glans 0.40, stylus 0.12 mm.

Whole dorsum variegated with whitish and brown tones — no clear saddle. Coxae yellow, venter spotted. Chelicerae light brown, pedipalps yellow, legs variegated. Penis yellow.

*Material*. 1♂ (holotype): Tadjikistan, Hisarskiy Ridge, Hisarskaya Valley, vicinity of Khochiler village (kishlak), plane tree grove, 25. April 1965 leg. Martinova (ZIN).

*Female*. Unknown.

*Etymology*. The species is named in honour of Aleksey N. Chemeris (born 1975), the leading Russian specialist of the fauna of Siberia and other parts of the former Soviet Union.

*Affinities*. Some similarities exist between this species and *Homolophus arcticus* Banks 1893, *H. tibetanus* (Roewer 1911) and some other species with shortish and thickened legs. One can not say that this is the proof of relationship. The structure of glans could indicate some relation with *H. gricenkoi* sp. n. but the strange armature of metatarsi secures the new species somewhat isolated position within the genus.

### ***Pamiropilio* gen. n.**

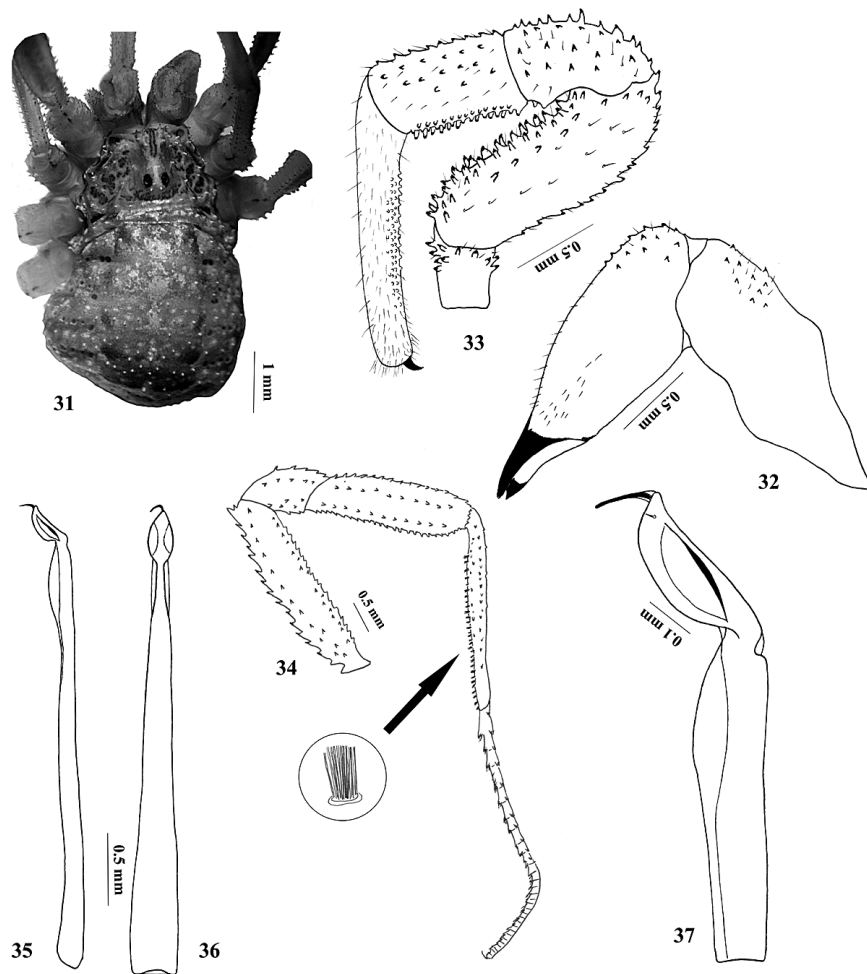
*Diagnosis*. A genus of the subfamily Opilioninae, tribe Opilionini, very close to *Opilio* Herbst 1798 and *Homolophus* Banks 1893. Differs from both of them only in the shape of penis shaft.

1. Coloration of the body — mainly dark, with contrasting light (yellow or white) stripe on the thoracic tergites [similar as in *Homolophus nordenskiöldi* (L. Koch 1879)].

2. Eye mound distant from the frontal margin of about its length or more.

3. Chelicerae normal, not enlarged in males.

4. Pedipalps short, femur and patella with some denticles mainly on dorsal surface, tarsus with a stripe of sensory granules ventrally.



**Figs. 31–37.** *Homolophus chemerisi* sp. n., male, holotype. Body, dorsal view (31). Right chelicera, prolateral view (32). Right pedipalpus, prolateral view (33). First right leg (34). Lateral (35) and dorsal (36) views of penis. Glans, lateral view (37).

5. Legs mostly long, thin, the first pair not thickened.

6. Penis. Shaft with broad basis, narrowing gradually towards apex, slightly flattened dorso-ventrally. Apical part with characteristic semicircular “wings” on the ventral side. Between the “wings” there is a horseshoe-like depression. Sometimes (*P. suzukii*) a depression also on dorsal side of the shaft. No lateral incisions.

Species typica: *Pamiropilio tsurusakii* sp. n.

*Etymology.* The name comes from Pamir Mts. and *Opilio*. Gender is masculine.

Included species:

*P. tsurusakii* sp. n.

*P. naukat* sp. n.

*P. suzukii* (Šilhavý 1972), comb. n. Transferred here from *Euphalangium* (*Homolophus*) on the ground of the structure of penis shaft (Šilhavý 1972: figs. 37–42) and revision of the type and other specimens (Staręga 2003: figs. 28–31).

This is a next genus from the complex consisting of *Opilio*, *Homolophus* and *Himalphalangium* Martens 1973. They all share some modifications of the apical part of penis shaft. The modifications are nearly none in *Homolophus*

(shaft narrowed and thickened), consisting of lateral incisions and dorsal or ventral depressions in *Opilio* and a ventral keel accompanied by deep depressions (even with some kind of a “roof” ventrally) in *Himalphalangium*. To that group belongs probably one more not yet described genus from Central Europe and Middle East.

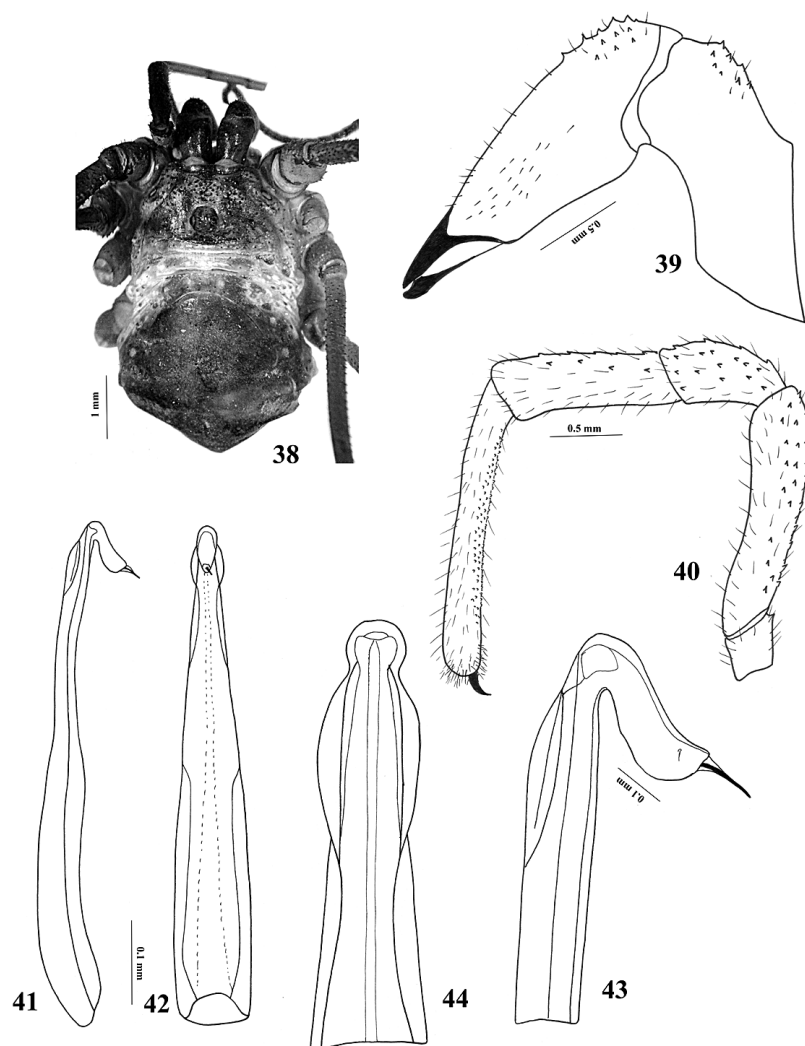
*Distribution.* Tajikistan, Kyrgyzstan, possibly E. Kazakhstan and W. Sinkiang.

### ***Pamiropilio tsurusakii* sp. n. (Figs. 38–44)**

*Diagnosis.* A big, very dark coloured species with long legs. Similar to *P. suzukii* but differs from this species in genital morphology.

*Male* (holotype). Body dorsally little flattened, nearly as oval as in females, 6.1 mm long, 3.5 mm wide (Fig. 38). In front of the eye mound a group of about 20 denticles. Similar denticles also on the eye mound (even in the furrow!) and on lateral margins of carapace. Eye mound flattened, from dorsal side nearly round, furrow broad and





**Figs. 38–44.** *Pamiropilio tsurusakii* gen. et sp. n., male, holotype. Body, dorsal view (38). Right chelicera, prolateral view (39). Right pedipalpus, prolateral view (40). Lateral (41) and dorsal (42) views of penis. Glans, lateral (43) and ventral (44) views.

shallow; the distance from the frontal margin is equal to about 1.5 length of the eye mound. All tergites with single transversal rows of widely separated very small denticles. Venter smooth, only with short bristles.

Chelicerae (Fig. 39) not swollen, with some larger granules dorso-subapically on the basal segment and fronto-basally on the distal one. Basal segment of chelicera 1.83 mm, distal 2.09 mm long. Pedipalps (Fig. 40) weak, with pointed granules dorsally and medio-apically on femur, dorsally, medially and laterally on patella and tibia (here sometimes also several larger granules ventrally). Tarsus with a strip of granules divided by a longitudinal smooth field. Length of palpal segments: femur 1.74, patella 0.87, tibia 2.0, tarsus 2.0; total length 6.61 mm.

Legs long and thin (though BLI 1.3–1.4), I pair only slightly thicker as the others. All segments cylindrical, with irregular longitudinal rows of big, pointed granules, particularly dense on the legs I and totally lacking on tibia to tarsus of legs IV. Length of legs: I  $8.0 + 1.5 + 6.6 + 8.1 + 11.1 =$

$35.3$ , II  $15.4 + 2.0 + 13.1 + 12.7 + 14.5 = 57.7$ , III  $7.3 + 1.8 + 6.1 + 8.5 + 8.6 = 32.3$ , IV  $9.5 + 2.1 + 7.7 + 10.9 + 14.0 = 44.2$ .

Penis (Figs. 41–44) flattened dorso-ventrally, dorsally even depressed, with sharp lateral edges, ventrally with subapical lateral roll-like "winglets", forming ventrally even a horseshoe-like depression. Glans (Fig. 43) ventrally a little flattened, dorsally rounded. Stylus short. Length of penis 3.13, glans 0.35, stylus 0.13 mm long.

Basic coloration of the whole body and appendages yellow. Dorsum with a dark, grey- or dark brown pattern (Fig. 38), in younger specimens only graded with grey-brown and with dark brown patches. Both free thoracic tergites and the frontal corners of abdomen always contrasting — yellowish-white. Chelicerae and pedipalps with brown shades. Leg femora (subapically), patellae and tibiae brown with thin white apical rings or at any rate dotted with brown (in younger specimens).

*Female* (paratype). Coloration very similar as in males.

Body 8.6 mm, width 3.5 mm. Basal segment of chelicera 1.83 mm, distal 2.22. Length of palpal segments: femur 1.61, patella 0.83, tibia 1.11, tarsus 2.0; total length 5.55 mm. Length of legs: I  $4.6 + 1.5 + 3.9 + 4.2 + 7.5 = 21.7$ , II  $8.6 + 1.6 + 7.7 + 6.2 + ?$ , III  $4.1 + 1.2 + 3.9 + 4.6 + 8.0 = 21.8$ , IV  $6.6 + 1.7 + 5.2 + 6.5 + ?$ .

**Material.** 1♂ (holotype), 6♂, 10♀ (paratypes): Tadjikistan, Eastern Pamir, valley of the river Bazar-Dara (left tributary of Murgab), vicinity of the former castle Nojman, 3800 m a.s.l.: 16.07.1973 leg. M. Bubnova (1♂ holotype, 1♂, 2♀ paratypes — ZIN, 2♂, 2♀ paratypes — ZIB, 5♂, 6♀ paratypes — RCWS II/0093).

**Etymology.** The species is named after Dr. Nobuo Tsurusaki (born 1956), a well known Japanese harvestmen expert, eagerly studying also the fauna of Central Asia.

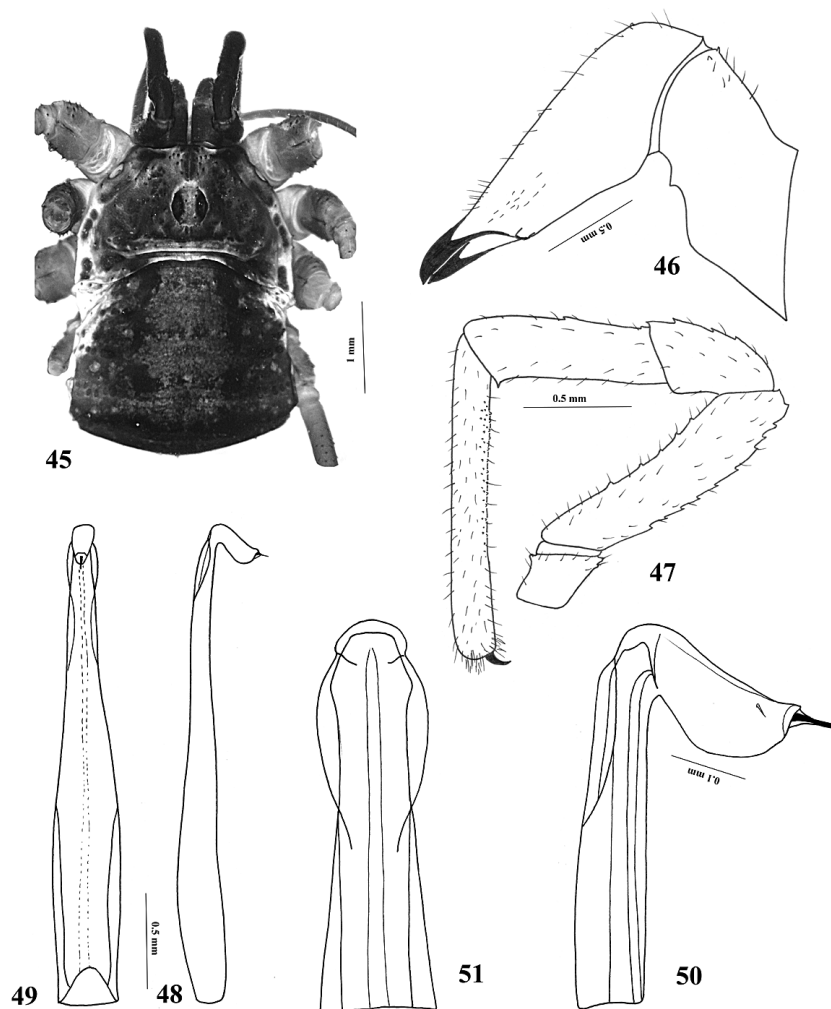
**Affinities.** The species is most closely related to *P. suzukii* (Šilhavý 1972) from the border region between Kazakhstan and Sinkiang but differs in following aspects: *tsurusakii* is generally bigger and darker; chelicerae in *tsurusakii* with granules, in *suzukii* only with bristles; femur, patella and tibia of pedipalps in *tsurusakii* dorsally, medially

and laterally with granules, in *suzukii* only femur ventrally with denticles, the other articles with bristles; apical part of penis shaft in *tsurusakii* dorsally flattened and ventrally depressed, in *suzukii* with dorsal keel and ventrally flattened (Šilhavý 1972: figs. 37–42, Staręga 2003: figs. 30–31).

***Pamiropilio naukat* sp. n.**  
(Figs. 45–51)

**Male (holotype).** Body 3.5 mm, width 3.1 mm. Body almost quadrangular with transverse rows of small denticles on all tergites (Fig. 45). Group of similar denticles in front of eye mound, which is about its diameter from the frontal margin; eye mound with small 7–8 denticles on each eye ring. Venter and coxae with bristles.

Basal segment of chelicera dorsally and distal segment with bristles (Fig. 46). Basal segment of chelicera 1.61 mm, distal 1.77 long. Pedipalps: femur dorsally and ventrally with denticles and bristles, laterally with bristles; patella dorsally with denticles and bristles; tibia and tarsus with bristles and tarsus ventrally with granules (Fig. 47). Length



**Figs. 45–51.** *Pamiropilio naukat* gen. et sp. n., male, holotype. Body, dorsal view (45). Right chelicera, prolateral view (46). Right pedipalpus, prolateral view (47). Lateral (48) and dorsal (49) views of penis. Glans, lateral (50) and ventral (51) views.

of palpal segments: femur 1.23, patella 0.69, tibia 0.92, tarsus 1.54; total length 4.38 mm.

Legs long, I pair slightly thickened, segments with small denticles. Length of legs: I  $5.0+1.3+3.9+4.8+7.2=22.2$ , II  $10.3+1.8+8.0+6.8+18.8=45.7$ , III  $4.7+1.1+3.8+6.1+7.4=23.1$ , IV  $6.7+1.5+4.7+7.4+10.8=31.1$ .

Penis with broad basis, narrowing to glans (Figs. 48–51). Apically small “wings” on the shaft. Length of penis 2.43, glans 0.27, stylus 0.1 mm long.

Body colour dark brown, all tergites (including the free ones) bordered by narrow white strip. Eye mound also on a whitish patch. Venter whitish-yellow, coxae brown. Chelicerae brown, pedipalp dark brown, legs variegated.

*Female.* Unknown.

*Material.* 1♂ (holotype): Kyrgyzstan, North slope of Alayskiy Ridge, Naukat scientific station, Mazarsay, 3000–3300 m a.s.l., 5. October 1970 leg. M. Zapryagalov (ZIN).

*Etymology.* The name of the species comes from its type locality, Naukat scientific station.

*Affinities.* *P. naukat* is closely related to *P. suzukii*, differing from that species by much darker coloration (in *suzukii* yellow tones, in *naukat* brown ones) and the structure of penis (“wings” of the shaft in *naukat* much smaller as in *suzukii* and *tsurusakii*).

#### Repositories of the material

All holotypes and large part of other material is stored in the Zoological Institute of the Russian Academy of Sciences in Sankt-Petersburg (ZIN). Some paratypes are in reference collection of the first author (RCWS with number) in Warszawa, some — in the Zoological Institute of the

National Academy of Sciences of Azerbaijan in Baku (ZIB).

#### Acknowledgments

The authors wish to thank the staff members of the Zoological Institute of the Russian Academy of Sciences in Sankt-Petersburg. First of all our thanks are due to Dr. Ekaterina (Katarzyna) Andreeva-Prószyńska (earlier Dushanbe in Tadjikistan later Milanówek in Poland) for giving to our disposal the interesting material collected by herself and her friends from the University in Dushanbe.

#### References

- Šilhavý, V. 1967. Beitrag zur Kenntnis der Weberknecht-Fauna des Sowjetischen Zentral-Asien (Arach., Opiliones). Acta Entomol. Bohemosl., 64: 472–478.
- Šilhavý, V. 1972. Asiatische Arten der Gattung *Euphalangium* Roewer (Arachnida: Opiliones: Phalangidae). Senckenb. biol., 53: 101–108.
- Snegovaya, N. Yu. & Staręga, W. 2008. *Redikorcevia platybunoides* gen. & sp. n., a new harvestman from Kazakhstan, with establishment of a new tribe Scleropilionini trib. n. (Opiliones, Phalangidae). Acta Arachnol., 57: 5–7.
- Staręga, W. 1978. Katalog der Weberknechte (Opiliones) der Sowjet-Union. Fragm. faun. Warsz. 23: 197–241.
- Staręga, W. 1987. Eine neue Art der Nemastomatidae (Opiliones) aus dem Pamir, nebst nomenklatorisch-taxonomischen Anmerkungen. Bull. Pol. Acad. Sci., Biol. 34 (1986): 301–305.
- Staręga, W. 2003. On the identity and synonymies of some Asiatic Opilioninae (Opiliones: Phalangidae). Acta Arachnol., 52: 91–102.
- Tchemeris, A. N., Logunov, D. V. & Tsurusaki, N. 1998. A contribution to the knowledge of the harvestman fauna of Siberia (Arachnida: Opiliones). Arthrop. Sel., 7(3): 189–199.

Received September 4, 2008 / Accepted October 24, 2008